

In the claims:

1. (currently amended) A rotor (1) of an electrical machine (10), having at least one permanent magnet (3), which is embodied as a hollow cylinder (5) and which has axial smooth contact faces (20) that cooperate with corresponding axial clamping faces (22) of at least one retaining element (4), with which element the permanent magnet (3) is secured to the rotor (1),

wherein at least one of the clamping faces (22) has a knurling (46) extending in the radial direction,

wherein the retaining element (4) has a spring element (30, 32) which presses the clamping face (22) against the contact face (20) with a contact pressure, and

wherein the radial knurling (46) is configured so that under an action of an axial clamping force it digs into an element selected from the group consisting of the smooth contact faces (20) of the magnet, and a smooth surface coating of the magnet, wherein the knurling (46) has radial grooves (50) and axially pointed raised areas (48, 52) which extend in the radial direction, wherein the axially pointed raised areas (48, 52) have sharp edges (52) with wedge-shaped points (54) and are composed of a high-strength material, penetrating more easily into the smooth contact faces (22)(20) that are softer.

Claim 2 cancelled.

3. (previously presented) The rotor (1) as defined by claim 1, wherein the retaining element (4) has a ring element (34), on whose axial side (28) - facing toward at least the contact face (20) - the clamping face (22) is integrally formed.

Claim 4 cancelled.

5. (previously presented) The rotor (1) as defined by claim 1, wherein the spring element (30) is braced axially and radially on the retaining element (4) and elastically supported the permanent magnet (3).

6. (previously presented) The rotor (1) as defined by claim 1, wherein the radial raised areas (48, 52) engage the inside of the contact face (20) of the permanent magnet (3), in order to transmit a torque between the permanent magnet (3) and the retaining element (4) and/or to center the permanent magnet (3) radially to the rotor (1).

7. (previously presented) The rotor (1) as defined by claim 1, wherein the permanent magnet (3) is manufactured of sintered material or plastic-bonded material.

8. (previously presented) The rotor (1) as defined by claim 1, wherein the permanent magnet (3), at least on one of its stop faces (20), has a coating (14) which is softer than the material (56) of the raised areas (48, 52).

9. (previously presented) The rotor (1) as defined by claim 1, characterized in that the raised areas (48, 52) are manufactured of harder material (56) than the permanent magnet (3) or the coating (14) and has a coefficient of thermal expansion that is adapted to the permanent magnet (3) used.

10. (previously presented) The rotor (1) as defined by claim 1, wherein the rotor (1) has a rotor shaft (2) and/or a rotor body (8), embodied as a magnetic short circuit (7), which are surrounded by a ring element (34) that has the clamping face (22).

11. (previously presented) The rotor (1) as defined by claim 1, wherein the retaining element (4) has a radial collar (36) or a radial-elastic element, on which the permanent magnet (3) is braced for radial precentering.

12. (previously presented) The rotor (1) as defined by claim 1, wherein the retaining element (4) is solidly fixed on the rotor shaft (2) by means

of securing rings (40), spring components, laser welding, adhesive bonding, material deformation, or shrink-fitting.

13. (previously presented) The rotor (1) as defined by claim 1, wherein the retaining element (4) is embodied as a sleeve (26) with an axial shoulder (28) on which the contact face (20) is braced.

14. (previously presented) The rotor (1) as defined by claim 1, wherein the axial shoulder (28) is embodied as the clamping face (22).

15. (previously presented) The rotor (1) as defined claim 1, wherein the permanent magnet (3), on its inside face (60), has extensions (62) with which the permanent magnet (3) is pressed against the sleeve (26) for precentering.

16. (previously presented) The rotor (1) as defined by claim 1, wherein the retaining element (4) is embodied as a magnetic short circuit (7).

17. (previously presented) The rotor (1) as defined claim 1, wherein the spring element (30) is embodied as a speed nut (58), which is braced directly on the sleeve (26).

18. (previously presented) An electrical machine (10) having a rotor (1) as defined by claim 1, wherein the permanent magnet (3) cooperates with at least one Hall sensor (72) or one electrically commutated magnetic field revolving around the rotor (1).

19. (previously presented) The rotor as defined by claim 5, wherein the spring element (30) is configured as a cup spring (32).

20. (previously presented) The rotor as defined by claim 7, wherein the permanent magnet (3) contains elements selected from the group consisting of ferrite elements, rare earth elements, and both.

21. (previously presented) The rotor as defined by claim 7, wherein the permanent magnet (3) is composed of NdFeB.

22. (previously presented) The rotor as defined by claim 8, wherein said coating is composed of a material selected from the group consisting of epoxy resin, nickel and aluminum.

23. (previously presented) The rotor as defined by claim 9, wherein the raised area (48, 52) are composed of a material selected from the group consisting of steel and Invar.

24. (previously presented) The rotor as defined by claim 11, wherein the retaining element (4) has a ring element (34) having the radially collar (36) or a radial-elastic element, on which the permanent magnet (3) is braced for radially precentering.

25. (previously presented) The rotor as defined by claim 17, wherein the spring element (30) embodied as the spring nut (58) braced directly on the sleeve (26) rests directly on one of the contact faces (20).

Claim 26 cancelled.

27. (previously presented) The rotor as defined in claim 1, wherein the radial knurling (46) has raised areas which alternate with grooves and extend in a radial direction.

Claims 28-29 cancelled.

30. (previously presented) The rotor as defined in claim 27, wherein the raised areas are composed of high-strength material.

Claim 31 cancelled.

32. (previously presented) The rotor as defined in Claim 1, wherein the axially pointed raised areas (48, 52) dig in the contact faces (20) of the magnet or the surface coating of the magnets so as to form a form lock with regard to a tangential direction.